

W5YI

America's Oldest Ham Radio Newsletter

REPORT

Up to the minute news from the world of amateur radio, personal computing and emerging electronics. While no guarantee is made, information is from sources we believe to be reliable.

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and much, much more!

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July 15, 2002

Comments on New Amateur Radio Band Proposals Due July 29

The FCC is soliciting public comments on a *Notice of Proposed Rulemaking* (Office of Engineering and Technology Docket No. 02-98) that was released by the FCC on May 15, 2002. This NPRM proposes to substantially accept three *Petitions for Rulemaking* submitted by the American Radio Relay League over the past 4 years..

The FCC Commissioners unanimously proposed to allocate the 135.7-137.8 kHz (low frequency, LF) and 5250-5400 kHz (HF) bands to the Amateur Radio Service on a secondary basis.

The Commission also tentatively also agreed to upgrade the existing secondary Amateur Radio Service allocation in the 2400-2402 MHz band to primary status and to add a primary allocation for the Amateur-Satellite Service in this band. (See June 15th W5YI Report)

The NPRM was published June 14th in *The Federal Register* and a copy is available on the ARRL Web site at: <www.arrl.org/announce/regulatory/et02-98/>.

Interested parties should file comments using the FCC's *Electronic Comment Filing System* (ECFS) web-site at: <www.fcc.gov/e-file/ecfs.html>.

To access the ECFS, click on "Search for Filed Comments" and enter "02-98" in the "Proceeding" field. All comments and other correspondence – plus a copy of the NPRM – are available for viewing on the ECFS.

You can review the original petitions by entering the RM number. The complete text of the three petitions is located at the end of the filed comments. Comments are due July 29, 2002. Reply comments must be filed by August 12.

Petitions filed by the American Radio Relay League

RM-9404 – filed: October 22, 1998 – Creation of a Low Frequency Allocation for the Amateur Radio Service.

Seeks a LF allocation for the Amateur Radio Service at 135.7 to 137.8 kHz and 160 to 190 kHz. Use will focus on advanced techniques to communicate during adverse conditions with limited facilities. (FCC did not approve 160-190 kHz.)

RM-10209 – filed Jul / 24, 2001 – Allocation of a Band Near 5-MHz for the Amateur Radio Service.

Requests a domestic secondary HF allocation of 150 kHz between 5250 and 5400 kHz to improve emergency and disaster relief communications between the U.S. and the Caribbean.

RM-9949 – filed July 17, 2000 – Use of the 2400 to 2402 MHz Band by the Amateur Radio Service.

Seeks an amendment of Section 97.303(j)(2) in order to change the domestic allocation status of the 2400-2403 MHz band from secondary to primary.

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HERE IS A SAMPLE OF SOME OF THE MANY COMMENTS THAT HAVE BEEN FILED THUS FAR

- Sub-banding is indeed necessary on the proposed 5000 kHz band to protect narrow band emissions like CW and data from wider emissions like single-side band. **[W5TB, Ted]**
- Opening 60 meters to amateur radio would provide amateurs with a frequency with decent propagation within the U.S., not just for experimentation and casual communication, but for emergency traffic. **[Paul, K2ORC]**
- I recommend the new 60 meter band plan remain simple and straightforward. There should be minimal partitioning or special rules, and no mode exclusion. **[Scott, WA9WFA]**
- On the new 60 meter band, it is my feeling that the band should have 3 subbands, lower 40% CW only, middle 30% digital and CW, upper 30% phone. Power should be limited to 200 watts max. **[Glenn, WD5RS]**
- Allowing the 5250-5400Kc band to be opened to amateurs and unfettered by restrictions as to mode or activity will improve utilization of this spectrum and boost the prospects for having a trained, disciplined corps of volunteers who would be prepared to support or be the primary means of emergency communications. **[Paul, WA5VJB]**
- I believe the 5 MHz band (60 meters) should be opened up to the General, Advanced, and Extra class licensees. **[Frank, K3BKO]**
- An allocation of 137.5-137.8 KHz to the Amateur Radio Service will facilitate experimentation and development of new technologies in this part of the spectrum often regarded as "old fashioned" and no longer particularly useful. **[Glen, K5FX]**
- The proposed 60 meter amateur band should not be divided into subbands. In fact, all other amateur bands should have subband allocations removed! As operating modes come and go in popularity, much of the space becomes underutilized. The CW mode is a good example. **[Larry, W9MDX]**
- A 60-meter is highly desirable because it provides frequencies suitable for medium-distance communications when the 3500-4000 kHz band is rendered useless due to static and the 7000-7300 kHz band is unsuitable due to the presence of a longer nighttime skip zone and interference from international broadcast stations between 7100 and 7300 kHz. **[Phil, K2PG]**
- A primary allocation in the 2400 to 2402 MHz band will help to protect amateur and amateur satellite communications from frequency allocation pressures in this highly valuable frequency range. **[Nick, N3NL]**
- I believe that sub-banding by mode should be implemented for the 5-MHz band. **[Steve, KB3MM]**
- It is my opinion that the proposed 60 Meter, 5 MHz, band will often provide more reliable communications than either the 3.5 or 7 MHz bands. **[Gareth, W1GG]**
- Amateurs can achieve any needed segregation of modes of emission [at 5 MHz] by establishing a voluntary band plan, instead of calling on the Commission to expend its limited resources to enforce what is essentially an internal amateur radio matter. Most other countries in the world, including Canada, have eliminated legally sanctioned mode subbands altogether. **[Donald, K4KYV]**
- I urge the Commission to assure that the entire 60m band is made available to General, Advanced and Extra Class licensees. **[Rich, K7REC]**
- In Germany the maximum allowed bandwidth on the 135.7-137.8 kHz band is 800 Hz. With this limitation in mind, Markus Vester, DF6NM and I have developed a way to transmit voice. The speed of the voice is reduced and so the bandwidth is reduced as well. On the receiving side the speed of the slow-voice signal is increased again and the normal speed content of the transmission is re-gained. **[Geri, DK8KW & W1KW]**
- It is clear from any observation of the bands that the CW mode sub-bands now mandated in all of the existing bands are vastly underused for the amount of CW operators there are currently active. It is my opinion that the number of pro sub band opinions filed with the Commission are from CW contest operators that have no interest in ham radio except during a contest. **[Bruce, W1UJR]**
- The upgrade of the Amateur and Amateur Satellite allocation of 2400 - 2402 MHz, will help protect the existing and planned amateur satellite(s), which are expensive and long lead-time projects, from interference from incompatible users of this segment. **[Michael, KA2KQP]**
- I recommend that the "tradition" of assigning narrow-band emissions to the lower portion of the new allocation be maintained in proportion to that assigned on the other HF bands. **[Dave, K1FK]**
- The *United Telecom Council* (UTC), met on May 29, 2002 with the *Office of Engineering and Technology* to discuss issues related to the [137.5-137.8 KHz] proceeding. During the meeting, UTC communicated its members' concern that they will be unable to comment fully on the NPRM due to restrictions on system information that can be discussed publicly. Such restrictions are becoming increasingly common in the critical infrastructure (CI) industries since the attacks of September 11, 2001, as utilities and other CI entities implement security measures. **[Brett Kilbourne, UTC Director Regulatory Services]**
- I'm active in PSK-31, CW, as well as SSB and AM operations, and I don't see that this proposed new band should be any different than the 160m band, which has no formal band-plan yet works well. **[John, WB5OAU]**
- I would urge a cw/digital sub band within the new 5000 kHz band and a necessary since this band is likely to handle emergency traffic in hurricane season. **[Stu, KW8K]**
- My preference would be NO sub-banding on 60 meters, rather the entire bandwidth of 150 KHz should be available to all modes. **[William, WM4SG]**
- Mixing wideband modes (SSB, etc), with narrowband modes could result in unacceptable levels of interference between modes. **[Allan, WA0HQQ]**
- It is my opinion from being a active ham for more than 20 years that giving any legal authority to mode sub-bands tends to waste MORE spectrum in the form of unused spectrum space that sits idle 90% of the time. **[Tim, N3DRB]**
- Many Electric Utilities companies in United States use Power Line Carrier (PLC) frequencies ranging from 35 kHz to 300 kHz to protect high speed transmission lines. Typically, they use a 10 watt signal. In case of any frequency interference from Amateur radio there is great chance of false transmission line tripping which can cause power outages to many utility customers and possible loss of system intertie which may cause wide system problems. It is not recommended to allow Amateur Radio to use 135.7-137.8 kHz or any frequency range between 50 and 300 kHz. **[Shoukat Khan, not licensed]**

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VENEZUELA BACKS OUT OF HOSTING CONFERENCE

WRC-2003 RESCHEDULED FOR GENEVA

The American Radio Relay League has learned that the World Radiocommunication Conference 2003 will take place in Geneva, Switzerland, next June and July. The conference was set to be held in Caracas, Venezuela, but the Venezuelan National Commission of Telecommunications (CONATEL) rescinded the invitation earlier this month, citing economic concerns.

The International Telecommunication Union (ITU) is expected to issue a formal announcement regarding the new WRC-03 venue in the near future.

"The ITU staff has managed to arrange suitable meeting space in Geneva for the dates that were originally agreed," said ARRL Chief Executive Officer David Sumner, K1ZZ, who will serve as administrative officer for the International Amateur Radio Union delegation to the conference. "It is quite an accomplishment for them to have achieved this on such short notice, and those of us who will be attending the conference appreciate the uncertainty being removed."

Several issues of importance to radio amateurs are on the conference agenda, including harmonization of the 7-MHz amateur and broadcasting allocations. Other Amateur Radio-related issues on the WRC-03 agenda include the revision of Article 25 of the international Radio Regulations--the basic rules for the Amateur and Amateur-Satellite services. Among other issues, this includes the issue of whether to retain the treaty requirement to demonstrate Morse code proficiency for access to amateur bands below 30 MHz.

WRC-03 will take place in Geneva from June 9 until July 4, 2003. (ARRL Bulletin)

AMATEUR RADIO STATION CALL SIGNS

...sequentially issued as of the first of July 1, 2002:

District	Extra	Advanced	Tech./General/Novice
0	AB0WB	KI0SK	→ KC0NOZ
1	AB1BD	KE1MD	→ KB1INO
2	AB2PE	KG2RP	→ KC2JWH
3	AA3ZP	KF3EC	→ KB3IGK
4	AG4UF	KV4GK	→ KG4TYL
5	AD5IKI	KM5XQ	→ KD5SZW
6	AE6FH	KR6FB	→ KG6LXW
7	AC7UM	KK7XH	→ KD7RWY
8	AB8PD	KI8KD	→ KC8UHL
9	AB9FZ	KG9QU	→ KC9CAG
Hawaii	→	AH6RN	KH7ZZ WH6DGS
Alaska	→	AL7RR	KL1IU WL7CVQ
Virgin Isl.	→	KP2CS	NP2LY WP2AIN
Puerto Rico	WP3T	KP3BN	WP3RU WP4NOZ

[Source: FCC Amateur Service Database, Washington, DC]

LEGISLATION SIGNED DELAYING SPECTRUM SALES

The transition of U.S. analog television to digital TV has been in the planning stage for more than a decade. The plan was to allow TV stations to broadcast on two channels - one analog and one digital - for several years.

The stations are supposed to turn over the airwaves as they move to digital signals. A deadline of 2006 was set for the analog channel to be turned off ...that is, providing 85 percent or more households in a market were receiving a digital signal. The plan looked good on paper and was agreed to by the *National Association of Broadcasters* which represents television broadcasters.

The digital channel would be located between Channel 2 and 51 (in the so-called "core" broadcast spectrum) leaving TV Channel 52 through 59 (the "lower 700 MHz band" between 698 to 746 MHz) and Channel 60 through 69 (the "upper 700 MHz" band at 698 to 746 MHz) vacant.

Consistent with the *Balanced Budget Act of 1997*, the government's plan was to reclaim (a "politically correct" word meaning "sell") the TV broadcast airwaves to new wireless services as TV broadcasting moved to digital systems. It would rake in billions to the U.S. treasury.

The potentially unused spectrum was scheduled to be auctioned (sold to the highest bidder) on June 20, 2002 (Channel 52 through 59) and January 14, 2003 (Channel 60 through 69.) The June auction consisted mostly of bidders from small wireless companies.

Well, it hasn't worked out that way and everyone is pointing fingers at someone else as to why the plan has failed.

On June 19th, President Bush signed legislation that indefinitely delays sale of broadcast spectrum currently used for TV channels 52 through 69. (The sale of the 60-to-69 block has already been delayed six times from its original May 10, 2000, date.) The mobile telephone industry wanted the auctions delayed because it is not clear when the television broadcasters would give up the airwaves as they move to digital signals.

The legislation was the result of agreement by lawmakers in both houses of Congress on June 18th that the auctions could not go forward under the present set of circumstances. The postponement has a monumental impact on future federal budgets which anticipated multi-billion receipts from the sale of unused TV spectrum. The measure signed into law removes the statutory deadlines for those auctions to take place.

The auction of a sliver of the 52-through-59 band -- 18 MHz known as the C and D blocks -- sought by rural mobile telephone carriers is being permitted to go forward between August 19 and September 19. The new law also requires the FCC to report to Congress in one year about the progress being made in the transition to digital television and when it intends to reschedule bidding for the remaining (A, B and E) spectrum blocks.

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CUTTING EDGE TECHNOLOGY

Something to think about. Predictions of the technological future.

- Your video recorder will learn what shows you watch regularly and if you forget to watch one of your favorites, it will automatically record it.
- All household appliances will be computerized. There's no way the toaster of the future will burn the toast.
- Complete baby-sensing equipment that will know from a change in local humidity that the baby needs changing. It will diagnose the sound structure of the baby's crying and tell you specifically what's wrong.
- No more drawing blood. A doctor a decade or so from now will be able to diagnose most of your health by momentarily holding an electronic instrument to your finger or arm.
- Each child in a classroom will be studying something different at their computerized desk. The teacher will be there strictly for social, emotional, physical education and support.
- Radio-accessible databases will totally replace encyclopedias.
- New televisions will show pictures in 3-D. The equipment, which requires no special viewing glasses, has already been invented.
- The family television, video recorder, stereo equipment, computer, telephone and answering machine will all be considered one item. Keyboards will be eliminated when speech recognition is common.
- People will have less and less contact with others, even friends and family. Instead, more time will be spent interfacing ourselves with electronic media devices.
- A few years from now, information processing will account for 80 percent of the total American workforce. Farming will still employ only 2 percent.
- New 5-inch bug-like robot vacuum cleaners - complete with legs - will automatically clean your house. The bug will even crawl over to a low trash container and empty itself. The bug will only clean in the dark.
- Toothpaste "nanomachines" will seek out and eat tooth-decay bacteria and floss for you. You'll never feel it at work. In fact, you won't even know it exists. It will be mixed into your milkshake.
- Computers will be installed into houses that will constantly listen to commands such as "dim the lights" and will automati-

cally fill the tub with warm water when you want it.

- Changing your job in the present often means buying a new house in a different city, enrolling the kids in a new school, getting a new doctor, dentist, bank.... In the future, changing jobs may just be a matter of dialing a different phone number in the morning.

EMERGING COMMUNICATIONS

According to a new report from *Strategy Analytics*, **digital television (DTV) will be in 103 million homes around the world by the end of 2002**, and in 374 million homes by 2008. Satellite-based digital TV is still viewers' preferred choice but cable operators are beginning to grow in popularity, says the research company. Strategy Analytics predicts that cable TV will be the world's fastest growing digital TV platform in 2003 with 15.9 million homes signing up for digital cable, compared to 15.4 million for digital satellite.

Increasing prices will hamper the widespread adoption of broadband services concludes a recent study by *ARS, Inc.* of LaJolla, Ca. The cost of high-speed cable modem connections rose 4 percent in the first quarter of 2002 ...from an average of \$43.21 per month in December 2001 to an average of \$44.95 in March 2002. DSL (Digital Subscriber Line) monthly access prices held fairly steady ...increasing only 73¢ to \$51.82. Nearly all broadband service providers that have been in business since the beginning of 2001 have raised their rates. "Industry consolidation has left broadband consumers with fewer choices and, ultimately, higher monthly prices." <www.arsl.com>.

Cable modems will dominate the broadband high-speed Internet access market in the U.S. for the next few years. The *Yankee Group* forecasts that approximately 10.1 million homes will be using cable modems by the end of 2002. This figure accounts for two-thirds of the residential broadband market in the U.S. Their study indicates that high-speed Internet access will grow to 41.1 million subscribers by 2007.

The NCTA (*National Cable & Telecommunications Association*) said there were 7.2 million cable modem broadband subscribers at the end of 2001. (17 percent of cable-TV homes that also have a

PC subscribe to cable modem service.)

Get ready for more e-mailed advertising. The *Gartner Group* reports that e-mail marketing campaigns are now more prevalent than traditional direct mail promotions. Reason: It is a more cost-effective way to acquire and retain customers. Gartner says that direct mail will account for less than 50 percent of mail received by U.S. households by 2005, a decline of 15 percent over 2001. E-mail advertising will increase 58 percent during that same period.

A widely circulated Reuters news story reports that **scientists at Finland's Radiation and Nuclear Safety Authority have "...found that mobile phone radiation can cause changes in human cells that might affect the brain** ...more research is needed to determine the seriousness of the changes and their impact on the brain or the body." The published initial findings "...raises new questions about whether mobile phone radiation can weaken the brain's protective shield against harmful substances." The scientists "...declined to speculate on what kind of health risks that could pose but said a French study indicated that headache, fatigue, and sleep disorders could result."

COMPUTERS & SOFTWARE

Virus writers learning from each other. MessageLabs, a British security company, says that computer viruses are more prevalent and spreading faster than ever before. The worst offender continues to be the Klez worm. It started off as a fairly tame mass-mailing worm, but due to virus writers improving on each other's code, has now mutated into the more malicious "Klez.H" version which is unknowingly being circulated in epidemic proportions.

Old, forgotten vicious viruses are resurfacing using Klez successful distribution power as a modern means of transportation. Klez.H is trickier than the average virus because it randomly generates a new subject line, e-mail text, attachment name, uses a source address from the victim's e-mail list each time it propagates and attaches what could be a sensitive document from the sender's hard drive.

If you think your PC is corrupted, you can download a free removal program at <www.bitdefender.com>. Click on "Downloads" and "Free Removal Tools." Klez is now the most active virus of all time surpassing the "sircam" virus.

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GADGETS & GIZMOS

British engineers have invented a Brevolutionary mobile "tooth implant" phone. It consists of a tiny radio wave receiver transplanted into a tooth cavity during routine dental surgery. It does not yet have its own microchip installed that would make it a fully functional phone but that "...could be put together in no time at all." Microchips are now small enough to implant in the tooth. "Sound, which comes into the tooth as a digital radio signal, is transferred to the inner ear by bone resonance, meaning information can be received anywhere and at any time and nobody else can listen in." (Reuters News Service, London)

Digital transition is here to stay! The Consumer Electronics Association (CEA) reports that manufacturer-to-dealer sales of DVD players reached 941,673 units in May 2002, an 80 percent increase over the prior year. Year-to-date DVD figures are up nearly 35 percent. Digital television (DTV) stand-alone monitors and integrated (HDTV) sets increased 120 percent during May 2002 compared to May 2001.

VCRs and videotape are going the way of the turntable and the vinyl record. The Wall Street Journal ran a story on June 22nd stating that Circuit City, the nation's second largest electronics chain, has decided to stop carrying analog VHS movies in favor of DVDs. DVD players made their U.S. debut in 1997.

Update on Netflix DVD story in June 1st (p.10) Report: Netflix, the online renter of DVD movies, went public on May 23rd. The firm used a portion of the \$82.5 million from the IPO to open ten regional distribution centers around the country to provide faster service to its more than 600,000 subscribers. The new facilities, which supplement the company's main distribution facility in San Jose, CA, are located in the Atlanta, Boston, Denver, Detroit, Houston, Los Angeles, Minneapolis, New York, Seattle and Washington, DC, metropolitan areas. The new distribution centers will provide a shorter delivery time to nearly 90% of the U.S. population and are already fully operational.

Netflix, which launched its DVD subscription service just over three years ago, allows movie fans to rent as many DVDs as they want for \$20 a month, with up to three movies out at a time. Subscribers

simply create a list of movies they want to see at <www.netflix.com> and the DVDs are delivered and returned via U.S. Postal Service in postage-paid mailers. Customers can keep the movies as long as they like -- there are no due dates or late fees. As each movie is returned, Netflix automatically mails the next available title on the subscriber's list.

Consumer-electronics giant Philips has developed a miniature disk drive that uses a coin-size disk capable of storing nearly twice as much data as a standard-sized CD. The drive uses 1.2-inch sized disks that can store up to 1GB of data. Typical CDs, measuring 4.75-inches in diameter, can hold up to 650MB. The prototype drive (which measures just 2" by 1.5" by less than a half an inch) is suitable for use in portable devices such as digital cameras, handheld devices and cell phones. The increased storage is made possible by using blue-laser technology. Blue lasers have shorter wavelengths than the red lasers currently used in CD drives.

Videogame and console promotion to increase dramatically! Nintendo (GameCube: \$149), Sony (PlayStation-2: \$199) and Microsoft (Xbox: \$199) will be waging an all out war during the balance of the year in an all-out effort to capture market share. Hundreds of millions of advertising dollars will be spent! They will be joined by such game software firms as Sega and Electronic Arts ...both of which have new NFL football games.

INTERNET & WORLD WIDE WEB

Microsoft has a traveling videogame arcade called "Xbox Odyssey" which will journey to major cities. "Xbox Live," Microsoft's new online gaming service launching this fall, lets you play multiplayer games on the Internet via a high speed broadband connection.

The company recently announced an "Xbox Live" game starter pack (retail \$50) which includes a year's subscription to their online game service. The Xbox console was built from the ground up to be an online gaming system.

According to the "The Online Game Market 2002" report by DFC Intelligence, 114 million people worldwide are expected to be playing online games by 2006.

And the Gartner Group predicts that by 2005, online multiplayer games will generate \$2.6 billion in revenue.

According to Viant's updated report "The Copyright Crusade," a staggering 400,000 to 600,000 movies are illegally downloaded from the Net every day ... an increase of 20 percent from last year. The research firm believes that the rise in piracy is due to the release of new blockbuster movies such as *Spider-Man* and *Star Wars: Episode II*. Ten million Internet users have tried to download illegal copies of the movies from the Net, but only two million are believed to have obtained complete copies.

Be cautious about ordering goods from auction sites on the Web.

According to a study by the Internet Fraud Complaint Center (IFCC) auction fraud accounts for nearly 43 percent of all reported Internet fraud in the U.S. Non-delivered merchandise and non-payment accounted for nearly 20.3 percent of complaints to the IFCC in 2001.

Households which earn more than \$75,000 a year will be the largest online group in the U.S. in 2006.

"With an estimated 21.8 million households online, the 'mass affluent' group will account for a quarter of the total U.S. Internet population in four years time, up from 17.6 million in 2002," so says Jupiter Media Metrix. In 2001, mass affluent individuals spent, on average, \$554 a year online, while lower-income groups spent \$204. Travel-related sites (hotel, airline and rental car) are very popular among the affluent. As a group, they are: more relaxed in their attitude towards online privacy, more comfortable with technology and are less worried about the security of their credit card information than other income groups. (27 percent of high-income households have a broadband connection, compared to 12 percent of low-income households.)

E-Marketer reports that 32 percent of US travelers have used the Internet to book travel arrangements during 2002. This is up 7 percent on last year, when 25 percent of travelers went online to book travel.

Online travel sales declined by 13 percent in the fourth quarter of last year following the September 11th terrorist attacks. Sales increased, however, by 39 percent during the first quarter of 2002 to reach nearly \$7 billion.

Many airlines have drastically lowered commissions to travel agents ...many of whom are tacking a \$10 to \$40 service charge onto each ticket issued in order to stay in business. The top five online travel

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sites are Expedia, Travelocity, Orbitz, Southwest Airlines and CheapTickets.com.

Worldwide Internet usage increasing! Nielsen-Netratings reports that the number of people with Internet access at home grew by 16 percent from April 2001 to April 2002 to reach a total of 422.4 million home users in the 21 countries surveyed by the research firm.

The number of people actively using the Web from home rose by 18 percent to 214.4 million over the same period. Nielsen-Netratings estimates that a quarter of the Internet population in the countries surveyed use a high-speed connection at home.

The top global Web properties remain unchanged from previous months with Yahoo claiming the top spot followed by MSN, AOL Time Warner, Microsoft and Lycos.

According to Shop.org, Forrester Research and the Boston Consulting Group, **more than half of all online companies selling on the Web are making a profit.** The study also projects that the combined results of all electronic retailers will hit breakeven on operating margins this year.

The Wall Street Journal reported that mail-order catalog companies that sell goods over the Internet continue to be the most profitable merchants online.

While Web-only companies such as Amazon.com once dominated the Internet retail landscape, the bulk of the business has tipped decisively toward "multichannel" retailers -- catalog-and-store merchants -- which accounted for 67% of total online sales in 2001, up from 54% in 2000.

Online retailing as a whole continues to be a sliver of total retail sales -- 2.4% last year and an anticipated 3.2% this year. U.S. Web shoppers spent \$53 billion online in 2001, up about 20 percent on 2000, according to comScore. Of that, \$19.35 billion was spent on travel.

Understandably, the busiest month of the year for e-commerce is December. Consumers spent most on computer hardware and consumer electronics. Twenty-four percent of all spending in the fourth quarter was in these two categories. Most online spending is carried out on work-based PCs.

Nielsen NetRatings' report found the average time spent on the Internet increased 13% over the past year. The total number of regular home users worldwide grew 18% over the same period. The av-

erage home user logs on 18 times each month, spending a cumulative total of more than nine hours online. The findings were culled from surveys undertaken in April 2001 and 2002.

The U.S. is a nation of 'cyberchondriacs.' Research from *Pew Internet and American Life* says that 73 million U.S. adults go online to research health-related topics. 93 percent look up information about particular diseases, 63 percent seek information on exercise, weight control and nutrition, 64 percent use the Internet to look for information related to prescription drugs and 55 percent have gathered information prior to visiting a doctor. According to the study, about 6 million Americans seek medical advice online during an average day.

A similar survey from Harris Interactive, however, says the figure is much higher. They say around 110 million Americans go online to look for health care information. Cyberchondriacs tend to be younger, better educated, and more affluent than the general population. They include 82 percent of people aged 18 to 29, 84 percent of those with post-graduate education, and 77 percent of people with household incomes of over \$75,000.

Harris Interactive also reports that 90 percent of Americans would like to be able to contact their physician over the Web ...with 40 percent saying they would be willing to pay to this online access to doctors. More than 70 percent participating in the study say they want to be able to ask their doctor medical-related questions, make appointments, request repeat prescriptions and receive results of medical tests online. Doctors are concerned about payment, privacy of patient information, and potential malpractice liability.

Traffic to America's top search engines grew by 11 percent to 92.3 million visitors over the past six months. Jupiter Media Metrix reports Google increased 54 percent to 34.2 million unique visitors, while Yahoo Search grew 20 percent to 38.4 million; and MSN Search grew 16 percent to 42.4 million. Jupiter Media Metrix attributes Google's strong growth to its partnership with Yahoo and AOL.

Find out who is collecting information about you. A cookie is a short string of text—not a program—that is sent from a web server to a web browser when the browser accesses a web page.

The use of cookies allows the server to recognize returning users, track on-line purchases, or maintain and serve customized web pages. Domain cookies are cookies placed by the visited web site.

However, some web sites also allow the placement of third-party cookies — cookies placed on a visitor's computer by a domain other than the site being visited. The domain and third-party cookies may be further grouped into session cookies and persistent cookies.

Session cookies are short-lived, are used only during the browsing session, and expire when the user quits the browser. Persistent cookies specify expiration dates, remain stored on the client's computer until the expiration date, and can be used to track users' browsing behavior by identifying their Internet addresses whenever they return to a site.

Thousands — and possibly hundreds of thousands — of websites routinely collect information about your visits and most do not tell you about it. Don't be surprised if you have hundreds of cookies installed on your computer. To find out who has installed a persistent cookie and the expiration date on your PC do the following:

How to See Cookies You've Accepted. If you're using Internet Explorer 5.0 or 6.0: On your task bar (at the top of your screen), click "Tools" then "Internet Options." Under the tab General (the default tab) click "Settings", then "View Files." (If you're using Internet Explorer 4.0 click "View" on your task bar.) Note that some of the cookies have a future expiration date. You can highlight and delete any cookie, but be sure it is not one that you need. Customized pages and services that you have subscribed to rely heavily on cookies.

In IE 6.x, you can stop Cookies selectively. This is a neat tip that few people know about! On any website page click on "View". Scroll down to "Privacy Report" and click on it. A dialog box appears listing all the cookies that are going out from that website page. Read down the list and right click on any cookie you don't want. You will then have the option of choosing whether or not you want to "always accept" "reject", or use "default setting" for the particular cookie. If you choose "reject" and click it, then you can go down to the "Summary" and click it to see that the bottom button is marked with "Never allow this site to use cookies."

You can configure your privacy settings in Internet Explorer 6 by clicking

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"Internet Options" on the "Tools" menu, and then clicking the "Privacy" tab. These settings replace the cookies settings on the "Security" tab in Internet Explorer 4 and 5 (and the Advanced tab in Internet Explorer 3). The Privacy settings slider has six settings: Block All Cookies, High, Medium High, Medium (default level), Low, and Accept All Cookies. Suggest that this setting be set to Medium High. (A setting of High may deny you access to information web pages or services you use.)

WASHINGTON WHISPERS

The Department of Defense stepped up its security reviews of unclassified military websites after the September 11th terrorist attacks. A recent routine audit of the U.S. Army website revealed that some of its publicly accessible content was "inappropriate" and "potentially sensitive matters and information were not adequately protected."

The audit report identified the prohibited content as "...operational plans, personal information, policies and procedures on military operations, and documents marked 'For Official Use Only.'"

DoD website policy requires that all publicly posted information pass a security review before posting. "The Army must prevent the disclosure of sensitive movements of military assets or personnel; locations of units, installations ...and classified information on Army publicly accessible Web sites," the audit report reads. The DoD ordered that an Army Web Risk Assessment Cell (AWRAC) be established and the Army has complied.

Government sets deadline for digital TV recording. House Energy and Commerce Committee chairman Billy Tauzin (R-La.) is giving movie studios, consumer-electronics manufacturers and technology companies until the end of July to come up with a firm technology and policy solution to the digital-television-copyright problem. The industries released a report last week stating that they had agreed to develop a copyright standard for digital television called the 'broadcast flag,' ...electronic watermarking which will allow home DTV recording but not distribution over the Internet.

Lawmaker support for DBS merger is increasing. While the Dept. Of Justice and FCC are still trying to decide if the pending \$26 billion merger between EchoStar and DirecTV is in the public interest, several Congressional lawmakers are

expressing their support for the consolidation. House Majority Leader Dick Armey (R-Tx) said a combined DBS platform would provide more services, including expanded HDTV, pay-per-view, high-speed Internet access and video-on-demand.

The White House believes now is the time for everyone to play a part in protecting cyberspace. Although cyber attacks have generally been the preserve of amateurs, the Bush administration is concerned that cyber terrorist attacks pose an increasing threat.

The objective of a new government initiative, the *National Strategy for Securing Cyberspace*, is to assist the private sector to identify and secure their critical information systems. The administration wants a strategy that is applicable to the largest American enterprises all the way down to the individual at-home PC user.

Several questions were posed for interested parties to answer so that the National Strategy could be developed. The following five questions (out of a total of 53) applies to home users and small businesses:

- **Awareness:** What kind of awareness program and assistance should be available to help the home user and small businesses learn about and deal with their cybersecurity needs?
- **Assistance:** What can be done to make it easier for home users and small businesses to safeguard their systems? Should Internet Service Providers (ISPs) perform more of the cybersecurity functions for the home user and small business?
- **Disclosure:** What disclosure of risk should ISPs, software vendors, and hardware vendors make to home users and small businesses?
- **Emerging Technology:** What emerging technologies (e.g. wireless area networks for the home, wireless connectivity of the home to the Internet, broadband connectivity to the home) pose additional security risks to the home users and small business; and what can be done to address those risks?
- **Broadband Initiative:** If the Federal Government acts to facilitate more rapid deployment of broadband connectivity to the home user and small business, what cyberspace security requirements should be a condition of Federal support?

In recent weeks, the administration has begun to release portions of a draft of the National Strategy to technology industry members and advocacy groups.

The final *National Strategy for Securing Cyberspace* report is expected to be

released in September.

The Justice Department disputes claims that Internet Service Providers can be forced to spy on their customers as part of the U.S. strategy for securing cyberspace.

AMATEUR RADIO NEWS

FCC Amateur Radio Enforcement

Steven G. Hunter, KF4FAV (Cookeville, TN) is being investigated by the FCC concerning two license examination irregularities. On December 14, 1999, Hunter participated as a VE at a Cookeville, TN test session and upgraded to Extra Class at that same session. As such, he would not have been eligible to certify General Class and higher class test results. Furthermore, on March 11, 2000 acting as a VE, Hunter administered an examination to his brother, Gary E. Hunter who obtained KG4FRN. This is against the Rule which prohibits acting as a VE when a family member takes a license exam. The FCC wants an explanation within 20 days about these two instances which will be used to determine what enforcement action to take.

Bobby A. Raymer, N2HR (Algood, BTN) also is being investigated for allegedly acting as a VE at the December 14, 1999 test session in Cookeville, TN when his wife, Kathy J. Raymer obtained KG4FWO. He, too, must respond to the FCC within 20 days.

Fabian Rodriguez Rosas, WP4MZZ (Mayaguez, PR) had his Amateur Radio license canceled when he failed to show up at the FCC's San Juan (Puerto Rico) field office to retake the Technician Class examination. He had been ordered by the FCC to be re-examined by May 25, 2002.

Albert Lee Clark, KG4IJV (Oxford, AGA) also had his Amateur Radio license canceled when he failed to show up at the FCC's Atlanta (Georgia) field office to retake the General Class examinations. He had been ordered by the FCC to be re-examined by May 31, 2002.

Michael E. Priest, KB0KMJ (Duluth, MN) has agreed to a three year suspension of his Amateur Extra Class license until May 15, 2005. This is to settle a deliberate interference case in which he was monitored jamming the operation of the 146.94 MHz repeater of the Arrowhead Amateur Radio Club.

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"The interference included sound effects, 'kerchunking,' lengthy keying on top of existing signals, music and voice," FCC said. Direction finding bearings indicated the interfering signals were coming from his residence.

Leobardo C. Coronado, KC6PXL (Sun Valley, CA) is reportedly operating a coordinated repeater on 145.120 MHz which is cross-linked to another (uncoordinated) repeater on 224.160 MHz. This repeater is causing interference with another coordinated repeater. The FCC said evidence indicates that he has taken no action to alleviate the problem even though he has been advised of the interference numerous times. He has been ordered to advise the FCC within 20 days about the coordination status of his repeaters and any received complaints.

Andrew M. Jensen, N5LA (Duncan, AZ) has been contacted by the FCC relative to the excessive number (at least ten) club call signs he has accumulated...nine of which were granted on the same day. He has been asked to provide justification for each of these club call signs. FCC said "Where you are claiming that they are used by clubs, provide a list of the names, addresses and telephone numbers of the members, meeting times and dates within the past year, and copies of the minutes, if any, taken at meetings within the past three months." The FCC said it intends to cancel these club call signs if Jensen has not satisfactorily responded within 30 days.

David C. Milstead, KD4LEW and/or Edward T. Jones, KM4LT (both living at the same address in Richmond, VA) may have been operating in the 40 meter CW band over the past year using false call signs. On February 26, 2002, the FCC monitored CW signals coming from their residence on 7.050 MHz and identifying with an Alaskan call sign. The FCC wants information concerning their radio operation using call signs not assigned to them. They are to respond to the allegations within 20 days.

Clifford W. Woods, KC9AZE (Albion, IN), Kenneth L. Bodenhafer, N9RYO (Kendallville, IN), Keith L. Lewis, KC9BEW (Waterloo, IN), Shelby Miller, N9MQB (Kendallville, IN) and John L. Zimmerman, KC9AZF (Auburn, IN) have been charged with operating ham radio equipment without a license on 27.585 MHz and other frequencies near the Citizens Radio Band. Such operation subjects them to a fine

(\$7,500 to \$10,000), possible imprisonment and seizure of their transmitting equipment. They are to contact the FCC.

John S. Gregory, W3ATE (Annapolis, MD) has been warned by the FCC concerning his alleged March 5, 2002, operation on 14.300 MHz. His Technician Plus operator license does not authorize use of that frequency. Such operation jeopardizes future attempts to obtain an upgraded Amateur Radio license and could lead to license revocation. He is to contact the FCC.

Joseph S. McCreary, Pensacola, FL. has been issued a *Notice of Apparent Liability* for forfeiture (fined) \$5,000 by the FCC's Tampa, Florida field office for violating Section 95.411 (using a power amplifier) in the CB Radio Service.

Man Convicted in Longtime Radio War (Reprinted from June 20th Palm Beach Post newspaper) A federal court jury took less than two hours, including lunch, Wednesday to convict a Jupiter Farms, Florida man of broadcasting without a license and maliciously jamming ham radio signals in northern Palm Beach County.

William Flippo, 60, sat with head bowed, eyes closed and hands clasped on the defense table as court deputy James Caldwell read out eight counts of "guilty" from the jury report. Each count carries a maximum of a year in prison and a \$10,000 fine.

"It was obvious," juror Anna Mavromatis of West Palm Beach said of the verdict afterward. "From the beginning, it was obvious."

But getting there still took a trial that stuttered through 6½ days, including testimony about mysterious "devices" found in trees, bizarre events going back to Hurricane Andrew and a forged letter that surfaced at the last minute.

Halfway through, U.S. District Judge Daniel T.K. Hurley took the extraordinary step of revoking bond on the charges -- even though they were misdemeanors -- and ordering Flippo into custody, saying he was trying to sabotage the trial by feigning illness. Flippo had checked into a hospital, claiming symptoms of a stroke, which delayed the trial for two days.

"The charges in this case may be cast as misdemeanors," Hurley said, "but there are important issues at stake here, particularly the ability to have the airwaves free so if there is an emergency they will be available."

The conviction capped years of con-

flict between Flippo and the Jupiter-Tequesta Repeater Group, a 70-member amateur radio club. Members said he jammed their transmissions by holding microphone keys open, whistling, whispering, calling names and making threats. They complained to the Federal Communications Commission, whose investigators said they tracked the interference to Flippo's home and two of his vehicles.

Club members said the interference stopped when Flippo was arrested in July 2000. Flippo's court-appointed attorney tried to build a defense by blaming the interference on his two main accusers, radio club members Edwin Petzolt, K1LNC of Hobe Sound and Albert Moresch, AG4BV of Jupiter. Moresch either planted a series of jamming devices that Flippo claimed he found taped to trees around his property or recorded Flippo's voice on a citizens band and played it on ham radio frequencies to frame him, Assistant Public Defender Robert Adler said.

The "jamming devices" were CB transmitters incapable of broadcasting on ham radio bands, according to the FCC.

Flippo's conviction "sets an example to other people who might attempt to break the law and try to interfere with amateur radio," Moresch said.

After the verdict, Hurley ordered Flippo to remain in custody until sentencing and to undergo psychological testing. The judge said he was "deeply concerned" about the escalation of violence -- particularly an incident in which he rammed Petzolt's car -- and whether Flippo had perjured himself by repeatedly denying he ever used amateur radio frequencies.

Flippo claimed most of the radio equipment found in his home, in three of his vehicles and filling a 24-by-24-foot building -- called the "radio shack" -- behind his house belonged to other people, was given to him by Palm Beach County for emergency use after Hurricane Andrew in 1992 or was part of a vintage radio collection.

He also claimed to have a letter, written in 1994 by the emergency coordinator for amateur radio operators in Palm Beach County, authorizing him to "test" his emergency equipment daily. The alleged author of the letter, Charles Mulligan, N4SDW testified that it was a forgery, created from a 1992 letter to Flippo dealing with Hurricane Andrew.

Flippo "got what he wanted -- a jury of his peers," Assistant U.S. Attorney Neil Karadibil said. "He deserves the consequences."

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What You Should Know About Wireless Phone Service

The FCC has a new booklet that answers most of the questions consumers have when getting a cell phone.

- Calls made on digital networks are clearer, more secure, and more feature-rich than calls made on analog networks.
- When a carrier fails to hand off a call in progress, as you travel from one part of the carrier's network to another a "dropped call" results. Blocked areas between the handset and cell tower can cause "dead spots." Signals often fade inside buildings or in underground locations.
- Coverage is also affected by the type of telephone handset. "Single-mode" phones connect to either a digital or an analog network but not both. "Dual-mode" handsets can be used on both analog and digital networks. "Tri-mode" handsets work on analog and two types of digital networks. The more networks your phone can access, the better chance you have to pick up service nationwide.
- Most wireless pricing plans include a certain number of minutes per month (often called a "basket" or "bucket" of minutes) for a certain price, and any minutes over that specified amount are charged on a per-minute basis. Any unused minutes expire at the end of the month.
- Many carriers offer plans that include a "basket" of minutes that can be used anytime during the month plus a larger basket of minutes that can be used during certain times, generally nights and/or weekends. ...some carriers offer pricing plans where all or some of the minutes of incoming calls are free to customers.
- Carriers usually charge by the minute. When you use a fraction of a minute, many carriers round up to the next minute. Some carriers round to the nearest second.
- Even if your carrier has not built out its network in a given area, you may be able to connect to or "roam on" another carrier's network. Several carriers have eliminated per minute "roaming" and long distance fees in their "nationwide" pricing plans.
- Most carriers require new subscribers to sign one-year contracts and charge an "early termination fee" to those who cancel their service plans early. Some also charge a one-time "activation fee."
- Wireless Web" or "mobile Web" services allow customers to obtain a limited amount of text-based Internet content on their mobile phones. SMS provides the ability to send and receive short text messages to and from mobile handsets. Many carriers charge a flat monthly fee for a basket of messages, with additional messages costing a few cents per message. (See following special report.)
- Determine handset's "standby" and "talk time." Standby time is the number of hours or days a cell phone can stay on; talk time is the number of hours a user can talk on the phone before the battery will run out.

Booklet on Web: <www.fcc.gov/cgb/wirelessphone.pdf>

SMS: TEXT MESSAGING OVER CELL PHONES

Wildly popular in Europe and Asia, it has never caught on in the U.S.

The United States is usually the largest market for electronics and innovative technology. But there is one wireless service that is enjoying explosive growth overseas and hardly known here. It is called SMS ...an abbreviation for the wireless Short Messaging Service. Today, over 30 billion SMS messages are sent globally each month -- practically all of it by overseas cellphone users -- and this number is increasing daily.

SMS is used at least once a month by 80 percent of European mobile phone customers. In the United States, 89 percent of cellular phone owners have never sent a text message over their cell phone. The service generated \$3.6 billion in revenue for European carriers last year. Carriers worldwide are expected to rake in \$210 billion from SMS in 2004. SMS is like instant messaging, except you can't tell whether a person is "online."

Most of the telcos in the United States now offer SMS today, but customers aren't buying into it. One reason is that Americans pay per-minute charges for cell phone services, whether they make or receive a cell phone call or send or receive a text message. But cellular phone services in Europe and Asia is cheaper because carriers charge for the number of messages sent and not per-minute costs.

Cellular carriers, who expected wireless Internet access to be the next big thing, were surprised in the early 1990's when the relatively low-tech alphanumeric text messaging became wildly popular in Europe and Asia. SMS became fashionable because it is cheap, quick to type and fun to receive.

SMS was created as part of the GSM Phase 1 standard. The first short message is believed to have been sent in December 1992 from a personal computer to a mobile phone on the Vodafone GSM network in the UK.

What is SMS ?

In a nutshell, SMS is a way of delivering short text format messages over a digital cellular network. Like e-mail, it is based on a "store and forward" concept. A Short Message Service Center (SMSC) relays, stores and forwards short messages to the intended recipient's cell phone much like e-mail from an ISP.

The SMSC on the cellular carrier's network manages and processes the messages, bills the sender and returns receipts if necessary. If an SMS message is sent to a phone that is turned off, the service center will store it and try to redeliver it over the next few days.

SMS messages are sent to-and-from digital cell phones, e-mail addresses and public SMS messaging gateways on the Internet. They are typically limited to 160 alphanumeric characters and you can't attach files. A message of this size takes up as much time as a one-

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second voice call.

GSM (Global System for Mobile Communications) is not the dominant standard in the United States, thus hindering the growth of mobile text messaging in America. The U.S. has different and conflicting cellular systems.

GSM uses a variation of TDMA (Time Division Multiple Access) technology which allows eight multiplexed calls on the same radio frequency. GSM is now the de facto standard in Europe and Asia where mobile-phone penetration runs close to 75 percent compared with 45 percent in the United States. GSM has over 120 million users worldwide and is available in 120 countries. It is the most widely used of the three digital wireless telephone technologies (TDMA, GSM, and CDMA) ...but not in the United States.

Digital cellular systems in the U.S. primarily use CDMA (Code-Division Multiple Access) spread-spectrum technology. Unlike narrowband TDMA, CDMA does not assign a specific frequency to each call. Instead, every channel uses the full available (1.23 MHz wide) spectrum with small pieces of each conversation overlaid on each other using a different digital sequence code.

SMS in North America

In the United States, SMS remains an overlooked and seldom-used service. Most major cellular providers (including Nextel, Cingular, Verizon, Sprint PCS, AT&T Wireless, VoiceStream, and US Cellular) have recently opened up their networks to messages from competing cellular carriers and digital technologies and are now offering either one-way or two-way SMS to their subscribers. They solved the interoperability problem by requiring users to type in phone numbers.

With one-way service, you can receive messages; while with two-way service, you can both receive and send messages. Features and costs vary widely from carrier-to-carrier. Some questions you should consider when comparing carriers include:

- How long are messages held by the carrier for delivery when your phone is offline?
- How many messages can be stored in the inbox?
- Is one-way messaging (receive), or two-way messaging (send and receive) available in your service area, and while roaming?
- Which features are provided through your carrier's public SMS gateway?
- Are SMS alerts (news, sports scores, etc.) available?

In general, cellular carriers offer messaging free of charge as part of select service plans, for a per message (2¢ to 10¢) fee, or for a monthly fee, which includes a set number of messages. If you purchase a plan that has a per message fee, incoming messages will cost less than outbound messages, and are only a few cents. If you cannot get free SMS with the service plan you've chosen,

and plan to send or receive many messages, a monthly plan is generally more cost effective than a per message plan.

Most SMS-equipped digital cell phones have one-way receive messaging capability. Newer model cell phones from a number of companies like Nokia and Motorola are equipped with two-way messaging.

Once you have subscribed to SMS through your service provider, receiving messages is easy. Most phones will display an incoming message alert graphic on the screen. Depending on the device, you may also set a tone to sound when incoming messages arrive. Once a message is received, you can use the scroll keys on your phone or pager to view the message text.

It is also easy to send a message. The exact procedure varies from device to device, but it usually involves entering the recipient's phone number or e-mail address, and then composing the message with the phone keypad.

Users of SMS communicate in an abbreviated lingo all their own. The idea is to be able to send as much text as possible within the allotted number of characters and to do it quicker. For example: AFAIK translates to "As far as I know," HAND = "Have a nice day," PCM = "Please call me," CUL8R = "See you later," ILBL8 = "I'll be late," RUOK = "Are you okay" ...and so forth.

There are several SMS dictionaries on the Web that lists common abbreviations. There is even a translating service -- at <www.transl8it.com> -- that translated SMS lingo into English -- or English into SMS. And TransL8it! counts your characters as you type so you'll know that your message fits within the character limit. Try it out!

Cellular service providers who offer SMS also offer public SMS gateways, which allow you to compose and send messages from the service provider's Web site. A number of independently operated message gateways also exist on the Internet. If you don't have access to your e-mail account, or an SMS-equipped phone, a public gateway (available from any computer with Internet access) is a convenient way keep in contact.

The main SMS consumer applications are:

- Simple person-to-person messaging -- usually originated from the mobile phone keypad.
- Voice and FAX notifications -- advising mobile phone users that they have new voice or fax mail messages waiting.
- Internet e-mail alerts -- notifying users whenever a new email is received.
- Ringtones -- tunes that the phone plays when someone calls it.
- Chatting -- communicating back and forth in text.
- Information services -- deliver a wide range of information to mobile phone users from share prices, sports scores, weather, flight information, news headlines, lottery results, jokes, horoscopes ..etc. Essentially, any information that fits into a short message can be delivered by SMS.
- Dispatching -- notifying drivers of the next stop or pickup.
- Vehicle positioning -- integrating GPS positioning systems with SMS to tell people where you are.